

the operating procedures to be used in the management and direction of emergency operations; the system is also referred to as an "incident command system" (ICS).

Incipient stage fire—a fire, in the initial or beginning stage, which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.

Inerting—the displacement of the atmosphere in a permit space by noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible. This procedure produces an IDLH oxygen-deficient atmosphere.

Interior structural firefighting operations—the physical activity of fire response, rescue, or both involving a fire beyond the incipient stage inside of buildings, enclosed structures, vessels, and vessel sections.

Multi-employer workplace—a workplace where there is a host employer and at least one contract employer.

Personal Alert Safety System (PASS)—a device that sounds a loud signal if the wearer becomes immobilized or is motionless for 30 seconds or more.

Physical isolation—the elimination of a fire hazard by removing the hazard from the work area (at least 35 feet for combustibles), by covering or shielding the hazard with a fire-resistant material, or physically preventing the hazard from entering the work area.

Physically isolated—positive isolation of the supply from the distribution piping of a fixed extinguishing system. Examples of ways to physically isolate include: removing a spool piece and installing a blank flange; providing a double block and bleed valve system; or completely disconnecting valves and piping from all cylinders or other pressure vessels containing extinguishing agents.

Protected space—any space into which a fixed extinguishing system can discharge.

Proximity firefighting—specialized fire-fighting operations that require specialized thermal protection and may include the activities of rescue, fire suppression, and property conservation at incidents involving fires

producing very high levels of conductive, convective, and radiant heat such as aircraft fires, bulk flammable gas fires, and bulk flammable liquid fires. Proximity firefighting operations usually are exterior operations but may be combined with structural firefighting operations. Proximity firefighting is not entry firefighting.

Qualified instructor—a person with specific knowledge, training, and experience in fire response or fire watch activities to cover the material found in §1915.508(b) or (c).

Rescue—locating endangered persons at an emergency incident, removing those persons from danger, treating the injured, and transporting the injured to an appropriate health care facility.

Shipyards firefighting—the activity of rescue, fire suppression, and property conservation involving buildings, enclosed structures, vehicles, vessels, aircraft, or similar properties involved in a fire or emergency situation.

Small hose system—a system of hoses ranging in diameter from 5/8" (1.6 cm) up to 1 1/2" (3.8 cm) which is for the use of employees and which provides a means for the control and extinguishment of incipient stage fires.

Standpipe—a fixed fire protection system consisting of piping and hose connections used to supply water to approved hose lines or sprinkler systems. The hose may or may not be connected to the system.

APPENDIX A TO SUBPART P OF PART 1915—MODEL FIRE SAFETY PLAN (NON-MANDATORY)

MODEL FIRE SAFETY PLAN

NOTE: This appendix is non-mandatory and provides guidance to assist employers in establishing a Fire Safety Plan as required in §1915.502.

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- I. Purpose.
- II. Work site fire hazards and how to properly control them.
- III. Alarm systems and how to report fires.
- IV. How to evacuate in different emergency situations.
- V. Employee awareness.

I. PURPOSE

The purpose of this fire safety plan is to inform our employees of how we will control and reduce the possibility of fire in the

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workplace and to specify what equipment employees may use in case of fire.

II. WORK SITE FIRE HAZARDS AND HOW TO PROPERLY CONTROL THEM

- A. Measures to contain fires.
- B. Teaching selected employees how to use fire protection equipment.
- C. What to do if you discover a fire.
- D. Potential ignition sources for fires and how to control them.
- E. Types of fire protection equipment and systems that can control a fire.
- F. The level of firefighting capability present in the facility, vessel, or vessel section.
- G. Description of the personnel responsible for maintaining equipment, alarms, and systems that are installed to prevent or control fire ignition sources, and to control fuel source hazards.

III. ALARM SYSTEMS AND HOW TO REPORT FIRES

- A. A demonstration of alarm procedures, if more than one type exists.
- B. The work site emergency alarm system.
- C. Procedures for reporting fires.

IV. HOW TO EVACUATE IN DIFFERENT EMERGENCY SITUATIONS

- A. Emergency escape procedures and route assignments.
- B. Procedures to account for all employees after completing an emergency evacuation.
- C. What type of evacuation is needed and what the employee's role is in carrying out the plan.
- D. Helping physically impaired employees.

V. EMPLOYEE AWARENESS

Names, job titles, or departments of individuals who can be contacted for further information about this plan.

Subparts Q–Y [Reserved]

Subpart Z—Toxic and Hazardous Substances

SOURCE: 58 FR 35514, July 1, 1993, unless otherwise noted.

§ 1915.1000 Air contaminants.

Wherever this section applies, an employee's exposure to any substance listed in Table Z—Shipyards of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(a)(1) *Substances with limits preceded by "C"—Ceiling values.* An employee's exposure to any substance in Table Z—

Shipyards, the exposure limit of which is preceded by a "C," shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time over a working day.

(2) *Other Substances—8-hour Time Weighted Averages.* An employee's exposure to any substance in Table Z—Shipyards, the exposure limit of which is not preceded by a "C," shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

(b)–(c) [Reserved]

(d) *Computation formula.* The computation formula which shall apply to employee exposure to more than one substance for which 8-hour time weighted averages are listed in subpart Z of 29 CFR part 1915 in order to determine whether an employee is exposed over the regulatory limit is as follows:

(1)(i) The cumulative exposure for an 8-hour work shift shall be computed as follows:

$$E = (C_a T_a + C_b T_b + \dots C_n T_n) \div 8$$

Where:

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remains constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average specified in subpart Z of 29 CFR part 1915 for the material involved.

(ii) To illustrate the formula prescribed in paragraph (d)(1)(i) of this section, assume that Substance A has an 8-hour time weighted average limit of 100 ppm noted in Table Z—Shipyards. Assume that an employee is subject to the following exposure:

Two hours exposure at 150 ppm
Two hours exposure at 75 ppm
Four hours exposure at 50 ppm

Substituting this information in the formula, we have

$$(2 \times 150 + 2 \times 75 + 4 \times 50) \div 8 = 81.25 \text{ ppm}$$

Since 81.25 ppm is less than 100 ppm, the 8-hour time weighted average limit, the exposure is acceptable.